Burien

Burien Overview

Volunteer monitoring began at Lake Burien in 1994, continued in 1998, and then resumed in 2000 through 2003. The data collected classify this lake in the city of Burien at low to moderate in primary productivity (oligotrophic - mesotrophic) with very good water quality.

Lake Burien has no public access boat ramp, but residents should continue to watch near-shore aquatic plants to catch early infestations of Eurasian milfoil, Brazilian elodea or other noxious aquatic weeds.

Lake Temp, Secchi Depth, Lake Level and Precip

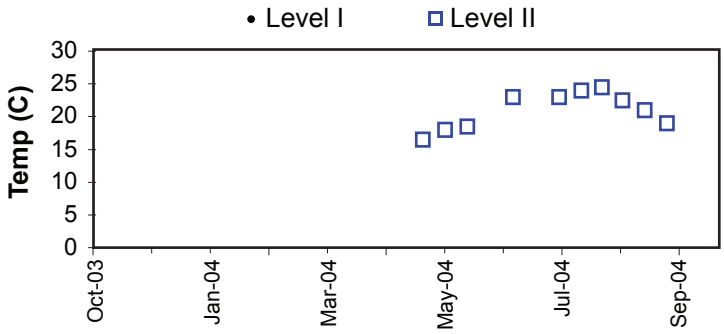
The Secchi transparency ranged between 3.0 and 6.0 m from April through October, averaging 4.6 m which placed it in the upper range for the small lakes monitored in 2004. Level II surface water temperatures reached a maximum of 24.5 degrees Celsius, which was in the lower mid range for the group.

No precipitation or water level records were available for the year.

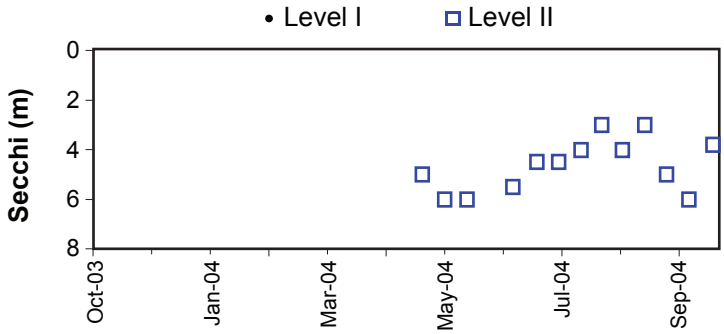
Nutrient Analysis and TSI Ratings

Both total phosphorus and nitrogen rose very slightly through the season. The N:P ratio ranged from 19 to 38, averaging 28, suggesting relatively poor conditions for nuisance bluegreen growth.

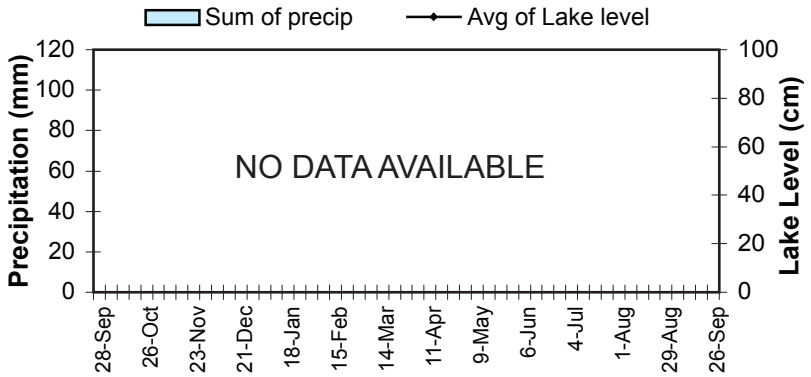
Lake Temperature



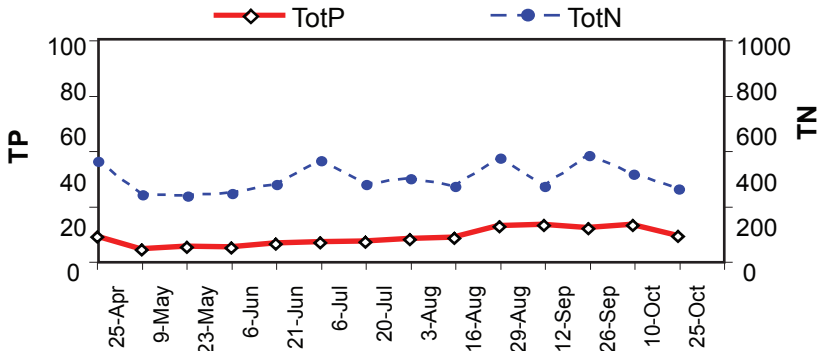
Secchi Depth



Lake Level and Precipitation



Nutrient Analysis



Profile data indicate that thermal stratification was not very strongly maintained, and there was little phosphorus build-up in the deep water through the summer. Chlorophyll concentrations were slightly higher in the deep water on both dates, suggesting that a significant portion of the algae in the lake was to be found in deep water.

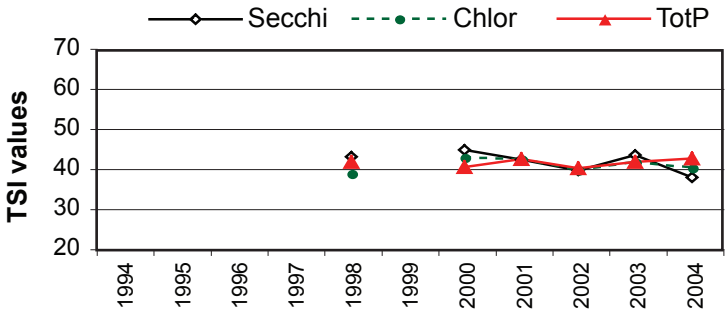
The 2004 TSI values for the three indicators were near the threshold between oligotrophy and mesotrophy, similar to previous years.

Chlorophyll Concentrations and Algae

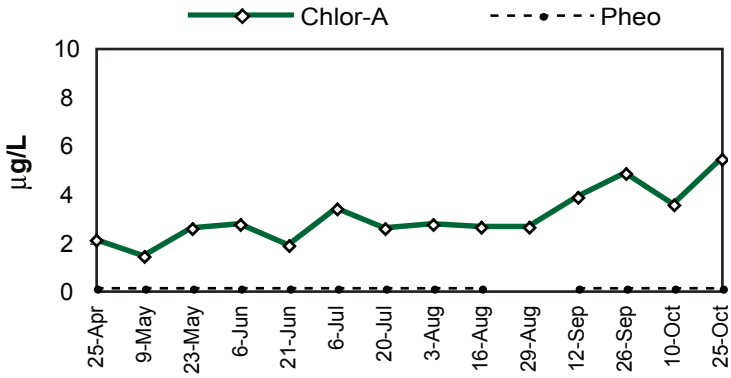
Chlorophyll content was low in spring and rose slightly through summer, climbing to its highest value at the end of the sampling season, although this was still a low concentration. The algae in the fall were dominated by the colonial bluegreens *Aphanothece* and *Anacystis*, accompanied by colonial chlorophytes. Other common algae present through the season included the dinoflagellate *Ceratium hirundinella*, the bluegreen *Anabaena,* and the diatoms *Fragilaria crotonensis* and *Asterionella formosa*.

Date	Secchi	depth-m	degC	Chlor-A	TP µg/L	TN µg/L
5/23/04	6.0	1	18.5	2.56	11.0	343
		8	13.5	7.21	20.2	561
8/29/04	4.0	1	22.5	2.60	20.1	509
		8	17.5	5.60	22.4	778

TSI Ratings



Chlorophyll a Concentrations (ug/L)



Common Algae

	Group
Anacystis sp.	Cyanobacteria
unidentified green colony	Chlorophyta
Anabaena sp.	Cyanobacteria

Burien

2004 Level I Data not available

2004 Level II Data

Date (2004)	Temp (°C)	Secchi (m)	Chl-*a* (µg/l)	TP (µg/l)	TN (µg/l)	Algae Obsv.	N:P	Calculated TSI		
								Secc	chl-a	TP
25-Apr	16.5	5.0	2.08	15.8	497	NA	31	36.8	37.8	44.0
9-May	18.0	6.0	1.40	10.0	347	1	35	34.1	33.9	37.4
23-May	18.5	6.0	2.56	11.0	343	1	31	34.1	39.8	38.7
6-Jun	NR	NR	2.72	10.7	352		33		40.4	38.3
21-Jun	23.0	5.5	1.85	12.4	392		32	35.4	36.6	40.5
6-Jul		4.5	3.36	13.1	499		38	38.3	42.5	41.3
20-Jul	23.0	4.5	2.56	13.3	393		30	38.3	39.8	41.5
3-Aug	24.0	4.0	2.72	14.4	420		29	40.0	40.4	42.6
16-Aug	24.5	3.0	2.60	15.0	386		26	44.1	39.9	43.2
29-Aug	22.5	4.0	2.60	20.1	509		25	40.0	39.9	47.4
12-Sep	21.0	3.0	3.84	20.7	385	1	19	44.1	43.8	47.9
26-Sep	5.0	19.0	4.81	19.5	521	1	27	17.5	46.0	47.0
10-Oct	6.0	NR	3.52	20.9	438	1	21		42.9	48.0
24-Oct	3.8	NR	5.41	15.9	374	1	24		47.1	44.1

	Temp (°C)	Secchi (m)	Chl-*a* (µg/l)	TP (µg/l)	TN (µg/l)	Algae	N:P	Calculated TSI		
								Secc	chl-a	TP
Mean	17.2	5.9	3.0	15.2	418.3	1.0	29	36.6	40.8	43.0
Median	19.8	4.5	2.7	14.7	392.5	1	29	38.3	40.2	42.9
Min	3.8	3.0	1.4	10.0	343.0	1	19	17.5	33.9	37.4
Max	24.5	19.0	5.4	20.9	521.0	1	38	44.1	47.1	48.0
Count	12	11	14	14	14	6	14	11	14	14

TSI Average = 40.1